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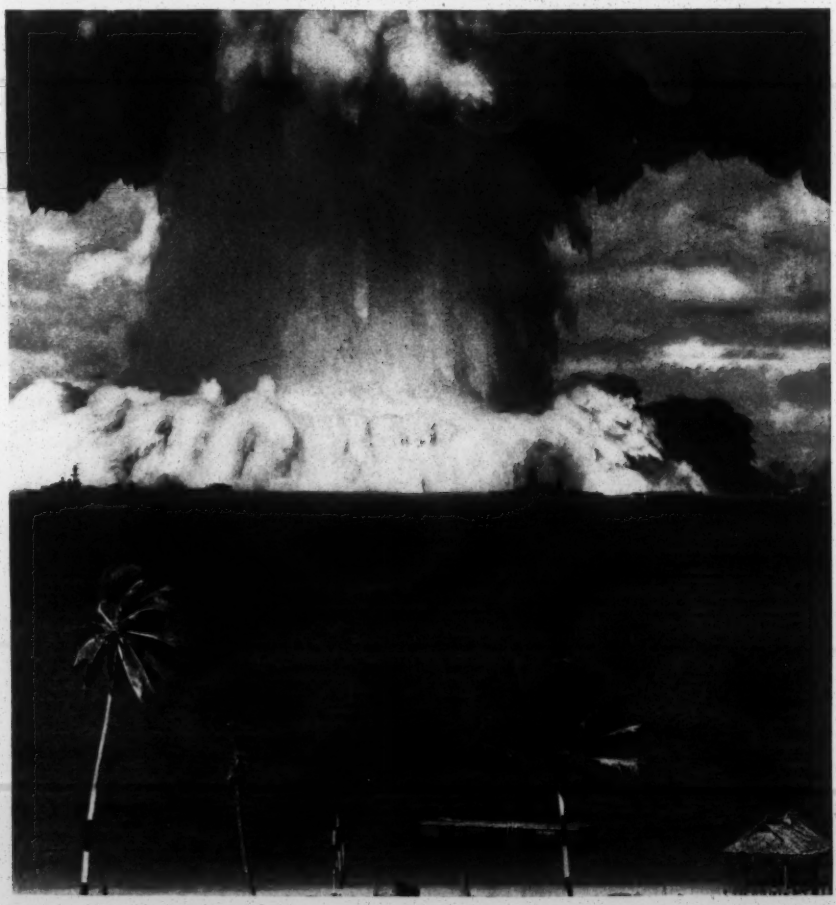

U. S. NAVY OFFICIAL

THE ATOM BOMB'S COLUMNAR BLAST OUTLINES WARSHIPS ABOUT THREE MILES FROM SHORE (p. 11)

Americans and British Merge German Zones

COMPLETED arrangements for economic union between American and British occupation zones bring together a major proportion of Germany's population and industry, nearly half of its prewar territory, and many of its agricultural resources.

Together, the United States and British zones cover all of western Germany except for the small dumbbell-shaped French zone along the upper Rhine River. The combined region covers more than 80,000 square miles—about the area of Minnesota—compared with 85,500 square miles under the Russian and Polish administration, and about 16,500 square miles under the French.

British Hold Heavy Industry

The American and British zones have a total population estimated at more than 37,000,000, while the other occupying powers control only about 23,000,000. In addition are the 3,000,000 Germans living in jointly held Berlin.

In the British zone is the battered but rich Ruhr district that was the Germans' wartime arsenal, the main source of the nation's coal, iron, and steel output. The crowded, smoke-blackened cities of this region produced explosives, armaments, chemicals, synthetic oil and rubber, high-octane gasoline, textiles, dyes, and plastics. Ruhr coal fields normally account for three-fourths of Germany's coal supply.

Also in the British zone are the chief German seaports, Hamburg and Bremen. The latter, with its immediately surrounding country, has been set aside as a transshipment point for the landlocked American section.

Farming, too, is of considerable importance in some portions of the British zone, especially in the Rhine valley and the fertile plains of Hanover and Westphalia. These areas have long been noted for their vineyards and orchards, grain crops, cattle, and hog production.

South Has Numerous Small Industries

The emphasis, however, is on heavy industry in the north, compared with the farm and forest economy, which, together with light industry, is conspicuous in the United States-occupied south. In rural Bavaria, largest of the southern provinces, innumerable small farms yield grains, vegetables, and dairy products.

From highland forests, and the valleys of the Main, upper Rhine, and Danube rivers come such raw materials as wood, grapes, and hops (illustration, page 4) used in local industry. "Cottage industries" and big-city centers—Stuttgart in Württemberg, Mannheim in Baden, and Munich in Bavaria—turned out such varied products as carved figures, beer, textiles, chemicals, automobiles, and airplanes.

Both the American and British sections of the unified zone hold a large share of the attractions prewar Germany offered tourists—including the Black Forest and Alpine regions of health and vacation resorts, and the historic, castle-crowned shores of the Rhine and the Danube.

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LUIS MARDEN

DOMES BUBBLE FROM THE ROOFS OF MODERN CHOLULA WHILE A CHURCH RISES FROM THE TOP OF AN ANCIENT OVERGROWN PYRAMID

When Cortés marched, this natural-looking mound was a sharply outlined, flattopped pile of masonry. Aztecs worshipped their god Quetzalcoatl on the summit. When the Spaniards captured Cholula, southeast of Mexico City, they destroyed the holy city's temples and according to tradition built a Christian church on every heathen site. Today, one may supposedly count 365 churches in the area (page 9).

Cameroun King Asks for French Trusteeship

CAMEROUN, a tropical West Africa country, one of whose hereditary kings recently urged the United Nations to approve the terms of a French trusteeship, has been a mandate of France since 1919. It is situated at the right-angle turn of Africa's Gulf of Guinea coast.

The great-grandfather of the king-delegate signed the pact establishing a German protectorate in 1882, and his father was hanged by the Germans in 1914. This regal line rules some 300,000 tribesmen. There are many sultans ruling smaller groups (illustration, page 6).

"The Cameroons" Was Sliced Off in 1919

The colony has been called by a confusing variation of names. Five centuries ago a Portuguese navigator named a river, in which he found great quantities of shrimps (*camaroës*), *Rio das Camaroës*. From this came the name of the region which was Kamerun to the Germans. It is Cameroun to the French. To the English, it remains "the" shrimps—"the Cameroons." A narrow strip along the Nigeria border was mandated to Britain and since 1919 has been governed as a part of the larger colony.

Cameroun consists of oppressively humid and unhealthful coastal lowlands and wild interior uplands. Most of the south and center of the country is a plateau at least 2,000 feet high. On the west the plateau rises higher and then descends in steep steps to the sea. On the southeast it terraces down to the Congo basin. Rugged mountains sweep in an arc across the north and northwest, anchored at the southern end by 13,353-foot Cameroons Mt., across the border in British Cameroons.

The country's contour gives it four river systems. Several streams flow westward into the Cameroun estuary at the north end of the coast. Others flow into the Atlantic separately, farther south. The Boumba and Dja flow southeast to become the Sanga and eventually reach the Congo. Lake Chad, on the north, is the goal of still other rivers.

Native Sultans Have Trappings of Film Fiction

Highways and two railroads radiate from the colony's chief port, Douala, on the Cameroun estuary. About 3,000 miles of roads and 300 of rail lines form a thin network over Cameroun's 166,000 square miles.

Roads are few in the interior. They pass villages ruled by native sultans complete with gaudily embroidered robes, palaces, gardens, harems, and cavalry guards. Most of the people of this region are Bantu-speaking Negroes, belonging to many different tribes.

Away from the improved highways the Cameroun hinterland is Africa at its near-wildest. In primeval forests vine-entangled trees grow to a height of 250 feet. Teak, ebony, and mahogany trees vary the usual palm growth of the tropics. Miles of uplands are a sea of pale-green grass, high enough to hide an elephant. Lions, leopards, baboons, and hyenas live in the wilds, neighbors to a reported 20,000 elusive pygmies.

After Cameroun was mandated to France by the League of Nations, the French moved the capital from Douala to Yaoundé, in the healthful uplands, about 190 miles east. They set up courts, established schools, put natives in government positions. They built hospitals—notably the group

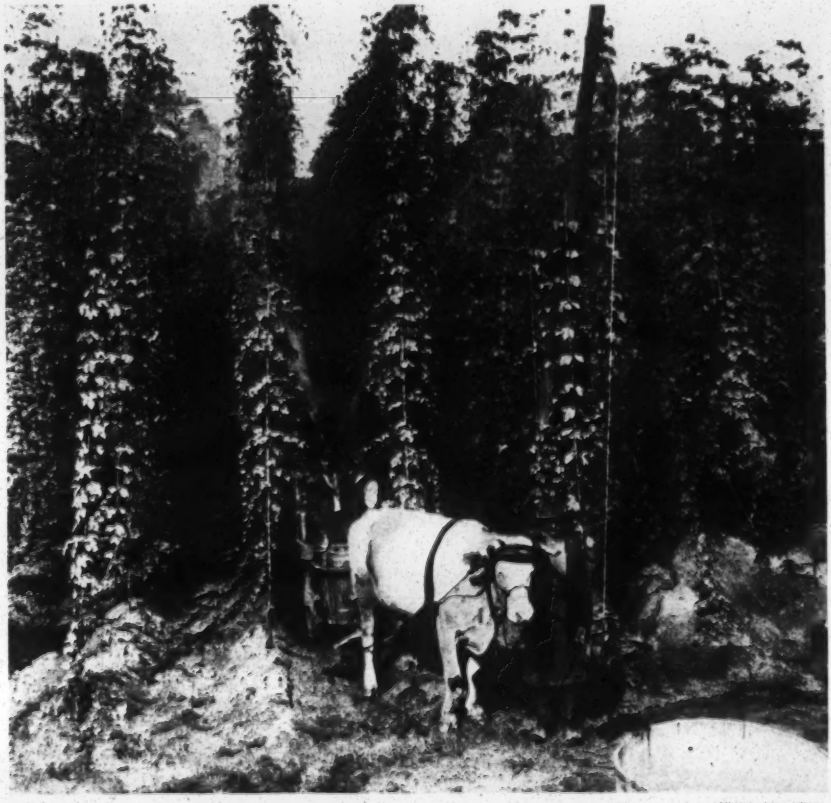
British and American authorities who set up the joint economic control chose as planning headquarters a provincial town in Westphalia which has seen centuries of history in the making—Minden. The town of 30,000 stands astride the Weser River as it flows through the narrow Westphalian gorge between Germany's central highlands and northern plains. It was a busy trading post in the reign of Charlemagne.

British and American forces together captured Minden in the last months of World War II. Surging across Germany, troops of the two armies jumped the Weser north and south of the city. Little damaged, Minden fell within the British zone. It is not far from the Ruhr district.

Its oddest scene is the "double-decker" waterway, formed where Germany's Midland Canal passes over the Weser by means of a high aqueduct.

NOTE: Cities in the British and American occupation zones of Germany may be located on the National Geographic Society's Map of Germany and Its Approaches. Write the Society, Washington 6, D. C., for a price list of maps.

For additional information, see "War's Wake in the Rhineland," in the *National Geographic Magazine* for July, 1945; "Americans Help Liberated Europe Live Again," June, 1945; and "Cologne, Key City of the Rhineland," June, 1936.



EWING GALLOWAY

AN INSECTICIDE CREW SHOOTS SPRAY HIGH INTO THE TOWERING HOP VINES OF BAVARIA

Most of Germany's hops are grown in the United States Occupation Zone. The plant is a member of the nettle family and related to hemp. It produces a scaly cone fruit used in making beer. The vines twine (always from left to right) around poles as high as 18 feet.

NATIONAL PARK SERIES: No. 12

Wind Cave, Where Buffaloes Remember the Past

THE single bison that charged into a bus in Wind Cave National Park, in the Black Hills area of South Dakota, may have been stirred by memories of the days when his ancestors by the million roamed the Great Plains and often stopped trains for hours as huge restless herds thundered across the tracks.

Less than a century ago the number of bison, or buffalo (illustration, page 8), on the plains was much in excess of today's human population in the same area. Before the coming of the white man, there were an estimated 60,000,000 of the humpbacked animals in the United States. Now there are only about 5,000.

The East Furnished Buffalo for the West

The Wind Cave herd is one of the largest in the country, and it was among the first to be placed under protection. In the early 1900's, barely a thousand buffaloes remained in existence, and conservationists feared the species might become extinct. A few straggling herds were placed under rigid protection.

In 1913 the American Bison Society placed fourteen buffaloes from the New York Zoological Society's herd in Wind Cave National Park. There they could roam the plains as of old. Today motorists driving through the large preserve see on all sides the huge-headed, lumbering animals. The herd now numbers about 250.

Wind Cave is entirely fenced. Antelope, elk, and deer also graze undisturbed in its 18-square-mile area. But the park's name attraction is underground. Wind Cave, most widely known of the many caverns in the Black Hills area, has been explored for a distance of ten miles. Its deepest passages reach about 240 feet below the surface. Trips through require one to two hours. An elevator brings visitors to the surface.

Wind Cave is an unusual limestone cavern because it has very few stalactites and stalagmites. Its distinctive formations, called boxwork, look like large empty honeycombs attached to the ceiling. The thin boxlike partitions are a hard calcite which formed in intersecting crevices of limestone. In time the limestone dissolved, leaving the partitions.

A Ten-Inch Hole Is Only Natural Opening

The cave gets its name from the strong blasts of wind which blow in and out of the entrance. When the barometer is falling, the wind usually blows outward; when it rises, the wind blows in. Visitors often pause at the opening and observe this natural barometer.

The entrance to the cave is manmade. The only natural entrance which has been found is a hole 10 inches in diameter. This opening led to the discovery of the cave in 1881, an event usually credited to a cowboy named Tom Bingham. While deer hunting, he was attracted by a whistling noise which seemed to come from a bush. Investigating, he found a mysterious hole out of which a draft of air was pouring.

Probably the Sioux knew of this eerie spot. Their legends contain stories of a sacred cave of winds through which their forefathers entered

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at Ayos, in the interior, where scientists have been working on a cure for sleeping sickness. They trained doctors and nurses to combat fevers which had long been the scourge of lowland areas.

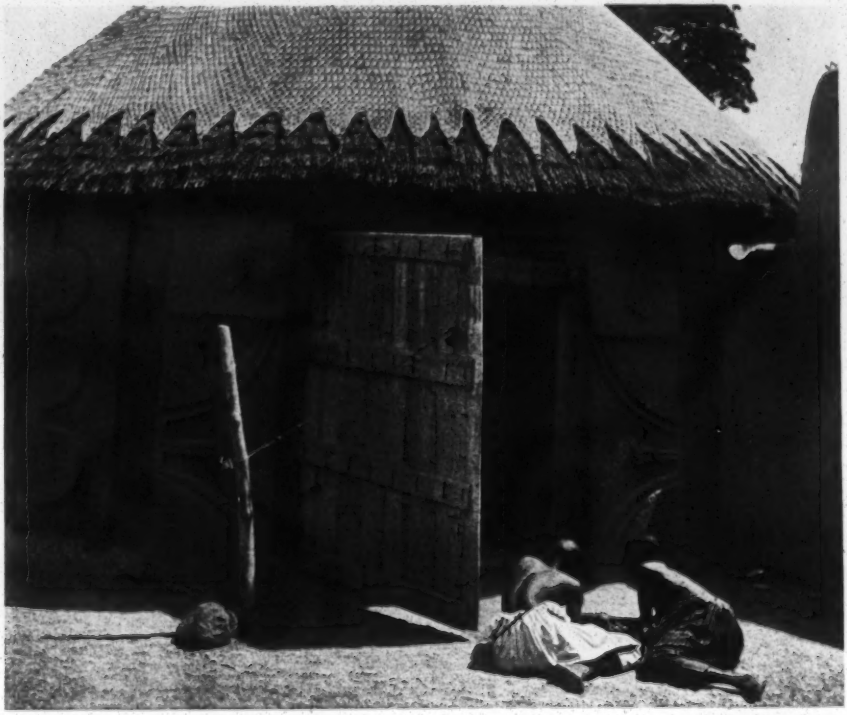
On lowland plantations flourish cacao, coffee, bananas, spices, rice, yams, and peanuts. The French expanded production and made the colony more than self-supporting. In 1938, the last complete prewar year, the value of the colony's exports exceeded its imports. Cinchona trees, a French introduction, matured in time to yield quinine in 1942 when the East Indies supply was cut off.

Douala, the old capital, spreads over a high promontory, a ridge, and a stretch of beach. Around its squat, neat stucco houses mango, palm, and breadfruit trees cast welcome shade from the tropic sun. Commercial buildings with corrugated iron roofs line the waterfront.

The largest entirely native town in Cameroun is Ngaoundéré, in the northern uplands 500 miles from Yaoundé. It is connected with the capital by an automobile road.

NOTE: Cameroun (Cameroons) is shown on the Society's Map of Africa.

See also, "The French Mandate of Cameroun," in the *National Geographic Magazine* for February, 1931.



LAWRENCE COPLEY THAW

THE PALACE OF A CAMEROUN KING WEARS A HAT, BUT SUBJECTS GO BARE OF HEAD AND TORSO

Entering the royal hut of the Lamido of Rei Bouba, slaves are seminaked and down on all fours, as court etiquette rules. The king is absolute monarch. From prime minister down to the poorest subject, all are his slaves and must appear before him in as lowly a position as possible. Set like a hat on carved mud walls is a thatched roof, its woven-straw cover notched in a saw-tooth edge.

Cortés's Long-Lost Casket Comes to Light

THE recent discovery in Mexico City of remains believed to be those of Hernando Cortés came almost exactly 400 years after the death of that fabulous Spanish *conquistador*.

Cortés died at Castillejo de la Castra, near Seville, Spain, on December 2, 1547, after a meteoric career which ended, like that of Columbus, in disappointment and neglect. He provided in his will, however, for the support of the Hospital of Jesús Nazareno. It was from the walls of this ancient building that his casket has now been recovered.

Recurring Strife Drives Conqueror's Bones from Grave to Grave

This hospital, which Cortés founded in 1524, is the oldest in the Americas. It stands on the site of the meeting place between Montezuma, the Aztec emperor, and the man who was to bring about the downfall of one of the world's greatest civilizations (illustration, page 2).

How the bones of Mexico's conqueror could have been concealed in the chapel walls of the hospital is a story of change and violence. Directly after the death of Cortés, his body was buried in the convent of San Isidoro, near Seville.

Later, in accordance with the explorer's will, the remains were transported to Mexico, scene of his greatest triumphs, and placed in the San Francisco Monastery at Texcoco. Still later they were removed to the Church of San Francisco in Mexico City, or Mexico, D. F. (Distrito Federal), as it is now officially known.

The modern mystery of the whereabouts of Cortés's bones dates from the turbulent period of Mexico's revolt against Spain. The casket was removed secretly from its resting place and hidden in 1823 by persons seeking to protect it from possible desecration at the hands of anti-Spanish mobs.

A little more than three centuries before the disappearance of his casket—in 1519—Cortés and his few hundred followers had set eyes for the first time on the Aztec capital, the magnificent city whose ruins lie beneath the present-day seat of Mexico's government.

Glittering Pageantry Marked Meeting of Cortés and Montezuma

The invading Spaniards found the city, Tenochtitlán, a breath-taking spectacle of stone palaces and temples, floating gardens, causeways, paved streets, and Venice-like canals alive with canoes carrying passengers, food, and fuel.

The historic meeting between Montezuma and Cortés was a spectacular event. The warriors from over the sea appeared in shining armor, and the Aztec chieftain and his court were weighted down with gleaming golden ornaments and costumes dazzling with jewels.

The first descent of the Spaniards on the Aztec stronghold in the high Valley of Mexico appeared to be a peaceful one. Then came a series of events that left Spain master of Mexico for 300 years.

The Spaniards captured Montezuma as a hostage. In attempting, unsuccessfully, to win the submission of his people to the conquerors, he

the Western hunting grounds. Also, the buffalo was supposed to have issued from the cave. The entire Black Hills area was considered sacred by the Sioux—a reason why they fought so hard before relinquishing it to the whites.

Wind Cave National Park is open all year. No hotels or tourist cabins are located in the park, but both are found at Hot Springs and Custer, a few miles south and north respectively. A public campground with free wood and water is maintained near the headquarters building.

The highway north of the park leads to the center of the Black Hills vacation land. At Mt. Rushmore Washington, Jefferson, Lincoln, and Theodore Roosevelt are carved in massive relief on the mountainside. The Needles Highway, Sylvan Lake, Harney Peak, Deadwood, Devils Tower and Rapid City are all popular objectives. From the "stratobowl" near Rapid City rose the balloon *Explorer II* in 1935, to set a still-standing altitude for man—a feat sponsored by the National Geographic Society and the Army Air Corps.

NOTE: Wind Cave National Park is shown on the Society's Map of the United States.

COURTESY NATIONAL PARK SERVICE

IN SMALL GROUPS, BUFFALOES ROAM THE GRASSY PLAINS THAT FED THEIR MYRIAD ANCESTORS

Serrated ridges of the Black Hills scallop the horizon in most of South Dakota's Wind Cave National Park. The cavern that gave the area its name "inhales and exhales" with atmospheric changes.

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1946 Exploration Widened Man's Horizons

THE first postwar year found man's questioning mind probing the mysteries of atomic energy, cosmic rays, polar regions, prehistory, and buried art. Expeditions by many nations to all parts of the globe in 1946 pushed back the curtain of the unknown in many fields.

In the Pacific, the aerial and underwater explosions (illustration, cover) of atomic bombs at Bikini (illustration, page 12) were undertaken by an expedition of 42,000 Army, Navy, and civilian representatives. Primary purpose of this Operation Crossroads, according to Vice Admiral W. H. P. Blandy, its director, was to enable the Navy to learn "how not to be on the receiving end of an atomic Pearl Harbor."

National Geographic Society Aided in Varied Research

New knowledge of cosmic rays—the invisible, high-energy particles emanating from the cosmos—was the object of a series of flights of a B-29 "flying laboratory" between Canada and Peru at altitudes ranging up to 35,000 feet. This expedition was a project of the National Geographic Society, the Army Air Forces, and the Bartol Research Foundation. Various military and civilian organizations participated in other research on cosmic radiation.

New expeditions and continuing research pointed up the archeological wealth of the Americas. In his eighth season of delving into southern Mexico under National Geographic Society and Smithsonian Institution auspices, Dr. Matthew W. Stirling found five more colossal stone heads fashioned by the peoples of the pre-Columbian era.

At Monte Alban, also in southern Mexico, Mexican scientists concluded 15 years of field work on pre-Cortesian Mixtec and Zapotec cultures. Near Huehuetenango, Guatemala, restoration work on Zaculeu, one of several known buried Mayan communities in the region, revealed a pyramidal fortress, temple, altars, and a court for playing a religious ball game. Zaculeu was abandoned after withstanding attack in 1525 by soldiers of Hernando Cortés.

The Great Wall of Paraguay Found

Near the Mexican capital, a Carnegie Institution group found implements and fossil remains believed to date from the close of the ice age, 15,000 years ago. In Arizona's Ventano Cave, and near Berkeley, California, human bones preserved for four to ten milleniums were found. In southern Wyoming and in Alaska, newly discovered fossil remains represent fantastic beasts believed to date back 40 to 85 million years.

Scientists of the Institute of Andean Research noted evidences of pre-Christian cave dwellers in northern Peru's Viru Valley, and studied its Mochica culture of A.D. 600 to 1,000. In northeast Paraguay, a red granite wall found buried in a mountain ridge proved to be 120 feet high and nearly a mile long. Its construction and decorations are believed to be the work of the Guarani Indians in prehistoric times.

Massive stones that formed part of Jerusalem's north wall not long after the crucifixion were uncovered near the heart of the present city. On the Palestine coast near Tel Aviv, mound excavations revealed founda-

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became a quisling of his time. When the Spaniards killed a group of worshippers and destroyed the Aztec idols in temples stained with the blood of ancient sacrificial rites, the people of Tenochtitlán rose in fury. Cortés and his shattered army were forced to flee (illustration, below).

But the rout was only temporary. The Spanish forces returned, reinforced by additional troops and horses, arms, and ships. The life-and-death struggle that ensued between Aztecs and invaders ended in Spanish victory. The city of Tenochtitlán was in ruins, and the stones of its magnificent buildings filled the canals.

NOTE: Mexico City and other places in Mexico which were visited by Cortés may be located on the Society's Map of Mexico, Central America, and the West Indies.

For further information about the scenes of Cortés's adventures, see "On the Cortés Trail," in the *National Geographic Magazine* for September, 1940; "In the Empire of the Aztecs," June, 1937; "North America's Oldest Metropolis," July, 1930; and "Among the Zapotecs of Mexico," May, 1927.

LUIS MARDEN

A GIANT AHUEHUETE TREE STILL STANDS WHERE CORTÉS ONCE SAW DEFEAT

Under this feathery giant in the suburbs of the Mexican capital, more than four centuries ago, Cortés is said to have stood and watched his shattered army fleeing from the outraged Aztecs.

tions of the Hellenes of 2,000 B.C. A building dating possibly from Canaanite days of 2,500 B.C. was discovered in desert sand near the southern end of the Sea of Galilee.

Near Cairo, Egypt, tombs yielded evidence of a dynasty possibly older than 3,200 B.C., the time that has been assigned to the earliest Egyptian dynasties known. On the Chukotski Peninsula, across Bering Strait from Alaska, Russians found objects tending to confirm the belief that Asiatics were forebears of North American Indian types.

Rear Admiral Richard E. Byrd's command; largest expedition ever to head for Antarctica, highlighted the new interest in the South Polar land mass which will occupy scientists from several nations on expeditions during 1947 and 1948.

Canada, with United States Army cooperation, tested new types of cold-weather equipment at the edge of the Arctic Circle. The United States Navy tested men and equipment aboard the big carrier *Midway* in Greenland waters, and charted submarine performances in the Bering Strait region. At the year's end, Army polar paraphernalia were being put to sub-freezing tests by task forces in the Aleutians and in Alaska.

Soviet sources announced research bases on islands in the Kara, Laptev, and East Siberian seas, and expeditions to northern areas of those seas to solve problems of oceanography and to facilitate navigation along the Soviet northern sea route.

CARL MARKWITH

BIKINI BOYS LEARNED TO SHOOT DARTS BEFORE THE NAVY MOVED THEM FROM THE ATOM ISLAND